tridge handling system, said method comprising the steps of:

(a) activating said Y control system and said Z control system to move said transport to a position in front of a cell containing said cartridge;

(b) altering a control system gain of said Z control system to a gain predetermined for a retrieve operation, whereby said control system gain is adjusted for inertia and resistance;

(c) moving an engaging mechanism connected to said transport in a first direction toward said cartridge using said Z control system until a predetermined opposition force is encountered; and

(d) moving said engaging mechanism using said Z control system in a direction opposite said first direction to remove said cartridge.

8. In a cartridge handling system having a Y control system and a Z control system for moving a transport of said cartridge handling system, a method for causing said transport to insert a cartridge into a cell of said cartridge handling system, said method comprising the steps of:

(a) activating said Y control system and said Z control system to move said transport to a position in front of said cell;

(b) altering a control system gain of said Z control system to a gain predetermined for an insert cell operation, whereby said control system gain is adjusted for inertia and resistance;

(c) moving an engaging mechanism connected to said transport in a first direction toward said cell using said Z control system until a predetermined opposition force is encountered;

(d) moving said engaging mechanism using said Z control system in a direction opposite said first direction to release said cartridge from said transport; and

(e) testing said transport and reporting an error if said cartridge is not completely removed.

9. The method of claim **8** wherein step (e) further comprises the steps of:

(e1) altering said Y control system gain;

(e2) moving said transport in a first direction a small predetermined distance;

(e3) measuring any opposing force encountered during said moving; and

(e4) returning an error condition if said force encountered exceeds a predetermined value.

10. In a cartridge handling system having a Y control system and a Z control system for moving a transport of said cartridge handling system, a method for causing said transport to insert a cartridge into an optical drive of said cartridge handling system, said method comprising the steps of:

(a) activating said Y control system and said Z control system to move said transport to a position in front of said drive;

(b) altering a control system gain of said Z control system to a gain predetermined for an insert drive operation, whereby said control system is adjusted for inertia and resistance;

(c) setting a count to zero;

(d) moving an engaging mechanism connected to said transport in a first direction toward said drive using said Z control system;

(e) Testing drive status information from said drive and proceeding with step (i) if said status indicates cartridge taken;

(f) testing an opposition force encountered by said Z control system, and proceeding with step (h) if said force exceeds a predetermined value;

(g) incrementing said count value and proceeding with step (d) if said count value is below a predetermined value;

(h) setting an error flag; and

(i) moving said engaging mechanism using said Z control system in a direction opposite said first direction to release said cartridge from said transport.

11. In a cartridge handling system having cells and having a control system for moving a transport of said cartridge handling system, a method for flipping said cartridge about a horizontal axis of said transport, said method comprising the steps of:

(a) altering a control system gain of said control system from a standby gain to a new gain predetermined for said flipping, whereby said control system gain is adjusted for a rotate operation inertia and resistance;

(b) moving an engaging mechanism connected to said transport from an original position in a first direction away from said cells using said control system until a predetermined opposition force is encountered; and

(c) restoring said control system gain of said control system to said standby gain.

12. In a cartridge handling system having a Y control system and a Z control system for moving a transport of said cartridge handling system, a method for determining if a cell in said cartridge handling system contains a cartridge, said method comprising the steps of:

(a) activating said Y control system and said Z control system to move said transport to a position in front of said cell containing said cartridge;

(b) altering a control system gain of said Z control system to a gain predetermined for a retrieve operation, whereby said control system gain is adjusted for inertia and resistance;

(c) moving an engaging mechanism connected to said transport in a first direction toward said cartridge using said Z control system;

(d) testing an opposition force encountered by said Z control system and proceeding with step (h) if said force does not exceed a predetermined value;

(e) setting a media present flag;

(f) moving said engaging mechanism away from said cell a predetermined amount, whereby said engaging mechanism is reset to allow said cartridge to be re-inserted;

(g) moving said engaging mechanism toward said cell using said Z control system until a predetermined opposition force is encountered; and

(h) moving said engaging mechanism using said Z control system in a direction opposite said first direction a predetermined amount.

13. In a cartridge handling system having a Y control system and a Z control system for moving a transport of said cartridge handling system, a method for determining if said transport contains a cartridge, said method comprising the steps of:

(a) activating said Y control system and said Z control system to move said transport to a position in front of a test area, said test area being constructed such that a cartridge cannot be inserted therein;

(b) altering a control system gain of said Z control system to a gain predetermined for a cartridge